

Product Specification

Name: TH-8203A computer-based desktop tensile testing machine



Product Overview:

The TH-8203A computer-based desktop tensile testing machine adopts fully digital force and displacement dual closed-loop control during the testing process, adopts AC servo motor and control drive system, and cooperates with precision gearbox and Taiwan TBI precision ball screw transmission to achieve the best transmission efficiency and performance to noise ratio.

This testing machine is mainly used to perform mechanical tests on electronic materials, small hardware components, solar photovoltaic modules and other samples, including tensile, compressive, anti bending, shear, peeling, tearing, etc. At the same time, testing and data processing can be carried out according to various standards provided by GB, ISO, JIS, ASTM, DIN, and users.

This testing machine is widely used in industries such as plastic films, solar photovoltaics, wires and cables, adhesive products, electronic products, textile materials, as well as in higher education institutions, research laboratories, commercial inspection and arbitration, technical supervision, and other departments.

Execution standards:

Test standards such as GB/T 528, GB/T 13022, GB/T 2970, ASTM D5458, ISO 5810, etc

Technical specifications:

1. Test force selection: 10N, 20N, 50N, 100N, 200N, 500N, 1000N, 2000N;
2. Accuracy level: better than 0.5 level;
3. Load measurement range: 0.2% -100% FS;
4. The allowable error limit for experimental force indication: within $\pm 0.5\%$ of the indication value;
5. Resolution of test force indication: $1/\pm 500000$ of the maximum test force;
6. Sampling frequency: 400 times/second;
7. Deformation measurement range: 0.2% -100% FS;
8. Limit of deformation indication error: within $\pm 0.50\%$ of the indication value;
9. Deformation resolution: 0.001mm
10. Limit of displacement indication error: within $\pm 0.5\%$ of the indication value;
11. Displacement resolution: 0.001mm
12. Displacement speed adjustment range: 1-500mm/min
13. Displacement rate control accuracy: within $\pm 1.0\%$ of the set value;
14. Effective test width: 150mm

15. Effective stretching space distance: 700mm
16. External dimensions of the host (length x width x height): 450 x 400 x 1250 (mm)
17. Power supply: single-phase 220V 50Hz 500W;
18. Machine weight: approximately 60kg;

Functional features:

1. Advanced chip integration technology and professionally designed data acquisition and amplification systems have advantages such as high integration, stability, reliability, and convenient use. Control software can automatically obtain testing data such as tensile strength, yield strength, compressive strength, fracture strength, peel strength, elastic modulus, elongation, etc. Open formula editing can automatically calculate data results such as force, stress, displacement, and deformation at any specified point during the testing process. The control and data processing of the experimental process comply with the requirements of corresponding national standards for metallic and non-metallic materials.
2. Control methods: Optional control methods such as fixed load, fixed speed, and positioning displacement;
3. Automatic zeroing: After the experiment starts, the measurement system automatically zeros;
4. Automatic shifting: Automatically switch to the appropriate range according to the load size to ensure the accuracy of measurement data;
5. Auto save: Test data and test conditions are automatically saved to prevent data loss caused by forgetting to save;
6. Batch testing: For samples with the same parameters, a batch of tests can be completed in sequence after one setting;
7. Display method: Data and curves are dynamically displayed during the experimental process;
8. Curve traversal: After the experiment is completed, the curve can be reanalyzed and the data corresponding to each point on the experimental curve can be found with the mouse;
9. Curve selection: stress-strain, force displacement, force time, displacement time and other curves can be selected for display and printing;
10. Unit switching: Force units: (g, kg, N, lb), Stress units: (kg/mm², N/mm², Mpa, lbf/in²)
Displacement units: (m, mm, in)
11. Test report: The test report can be programmed and printed in the format required by the user, and can be exported to WORD, EXCEL, and PDF files;
12. Test data: Powerful result data query function, allowing users to query historical test records at any time through the database;
13. Safety protection: When the maximum load exceeds 2-10%, automatic safety protection is implemented;
14. It can automatically detect and calculate the mechanical performance indicators of the sample, as well as manually intervene in the analysis process. According to the requirements of relevant standards, the automatic analysis results can be corrected to improve the accuracy of the data;

Random standard accessories:

1. Load sensor: American MKBELS high-precision load cell, 2000N (200kg) one;
2. Displacement sensing system: One set of high-precision photoelectric encoder for sensing the entire displacement of the entire process;
3. Data acquisition card: One TH2000 measurement control motherboard;
4. Test software: One set of TM2101 English/Chinese Simplified/Traditional three in one measurement and control system;
5. Power system: One set of Italian Haitec and Delta frequency converter control system;
6. Transmission system: One set of Italian Haitec gearbox and Taiwan precision screw transmission;
7. Testing fixture: One set of welding strip tensile testing fixture;
8. Test computer: Lenovo+printer set;

Fully Automatic Metallographic Sample Grinding Tester PV Round Wire Tinning Concentricity inspection instrument.



Name 01 : HV-1000A Vickers microhardness tester



Product overview :

HV-1000A Vickers microhardness tester is a high-tech product integrating optical, mechanical and electrical engineering. The instrument has a novel shape and beautiful appearance, and is an upgrade product of the popular microhardness tester. The machine adopts computer software programming, high magnification optical measurement system, photoelectric sensing and other technologies. Through the

soft key input, the strength of the measurement light source can be adjusted, and the preset test force holding time, dimensional and Knoop test methods can be switched. The LCD display on the soft key panel can display the test method, test force, measurement indentation length, hardness value, test force holding time, measurement times, and can type in the year, month, and date, and the test result is output through the printer.

The hardness tester can also be optionally equipped with a photographic device to photograph the indentation and metallographic structure of the material. It is suitable for measuring the microhardness of tiny and thin specimens, surface plating and other specimens and measuring the microhardness of brittle materials such as glass and ceramics.

Product Features:

Video measurement Vickers hardness tester is a new generation of microhardness tester equipped with video measuring device on the host of Vickers hardness tester. When equipped with a video measuring device, the indentation that was originally displayed on the hardness tester eyepiece is displayed directly on the liquid crystal display. The working process is more intuitive and the measurement is more precise. The CCD image processing system automatically completes the diagonal measurement of the indentation, displays the hardness value, and saves the current test data and images

Perform multi-point experiments at one time (arbitrarily set the test point spacing) and save them as a set of test data. Various hardness value conversions.

Application and scope:

Carburized layer, ceramics, steel, non-ferrous metals; Thin plates, metal sheets, electroplating layers, micro test pieces;

Gradient measurement of nitride, carburized and quenched hardening layers; Suitable for precision Vickers hardness measurement in parallel planes and on tiny and ultra-thin parts.

Main parameters:

1. Measuring range : 5-3000HV
2. Test force : 0.09807、0.2452、0.4904、0.9807、1.961、2.942、4.904、9.807N
(10、25、50、100、200、300、500、1000gf)
3. Maximum allowable height of the specimen : 90mm ;
4. The distance from the center of the indenter to the machine wall : 120mm ;
5. Measure the magnification of the system : 400X,100X ;
6. Dimensions : 530*290*490mm ;
7. Power supply : AC220V,50/60Hz ;
8. Weight : 40kg.

Printout form :

Report, gradient graph

Under the Word interface, compile the report output format by yourself

According to the calibration of the hardness tester, the user can adjust the accuracy of the measured hardness value at any time.

Accessory box is standard :

1. Coordinate test bench, fine shaft test bench, thin sheet test bench, small flat jaw test bench: 1 each ;
2. Large V-block and small V-block: 1 each ;
3. Diamond quadrangular pyramid indenter: 1 pcs ;
4. Standard microhardness block: 2 pieces.
5. Computer and printer: 1 set ;
6. Camera: 1 pcs ;
7. Capture card: 1pcs ;

Name02 : TH-9201-C Salt water spray testing machine



Product overview :

The salt water spray testing machine is specially used to test the corrosion resistance of various material surface treatment (including coating, electroplating, organic and inorganic film, anodic treatment, anti-rust oil, formation treatment), and confirm the level of long-term corrosion resistance of the product.

Technical specification:

1. Experiment space : 600*450*400mm (W*D*H)
 2. Carton size : 1130*630*1070mm (W*D*H)
 3. Power supply : 220V 10A 50HZ
 4. Test conditions : Water (tap water and purified water), electricity, gas (at least 1.5P air compressor)
 5. Laboratory temperature : 35°C±1°C
 6. Pressure drum temperature : 47°C±1°C
 7. Brine temperature : 35°C±1°C
 8. Temperature fluctuations : ≤±0.5°C
 9. Temperature uniformity : ≤±2°C
 10. Temperature deviation : ≤±1°C
 11. Spray volume (m1/80cm2/h) 1.0 ~ 2.0 (Collect for at least 16 h, taking its average)
 12. Relative humidity : 85%以上
 13. Brine concentration: concentration 5%; Air pressure : 1.00±0.01kgf/cm2
 14. pHPH : 6.5 ~ 7.2
 15. Lab Capacity : 108L
 16. Brine bucket capacity : 15L (It can be sprayed continuously for more than 120 hours)
 17. The laboratory adopts PVC polyethylene board, thickness 5mm, durable temperature at 55°C, can withstand pH 4.8 acidic solution.
 18. The test chamber seal adopts PVC stamping plate, with a thickness of 5mm.
 19. The refill bottle adopts a hidden water level meter, which is easy to clean and not easy to break.
 20. The pressure air barrel adopts SUS#304 Buxiu steel high-pressure resistant barrel for the best insulation effect.
 21. The laboratory basket adopts a flat indexing frame, which can be adjusted arbitrarily, and the fog falling and fogging on all sides is completely consistent in terms of the number of test pieces.
 22. The sealing cover adopts transparent acrylic
 23. PVC feet are used at the bottom
 24. ACCORDING TO CNS.JIS.ASTM SPECIFICATIONS, SETTABLE THERMOSTATIC CONTROL IS POSSIBLE
- (1) Saline spray test : GM4465P
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a Laboratory : $35^{\circ}\text{C}\pm 1^{\circ}\text{C}$

b Pressure air barrel : $47^{\circ}\text{C}\pm 1^{\circ}\text{C}$

25. Air supply system: the air pressure is $1\text{kg}/\text{cm}^2$ and adjusted in two stages

26. The first adjustment is $2\text{kg}/\text{cm}^2$ imported air filter with drainage function, and the second adjustment is $1\text{kg}/\text{cm}^2$ pressure.

27. Spray method: continuous, intermittent.

28. Using Bernut's principle to absorb salt water, and then atomize, the degree of atomization is uniform, and there is no phenomenon of blocking crystallization, which can ensure the standard of continuous testing.

29. Nozzle: made of special glass nozzle, can adjust the size and angle of spray.

30. Spray volume adjustment 1-2ml ($\text{ml}/80\text{cm}^2/\text{h}$) (16-hour average amount).

Heating system:

Using steam direct heating method, fast heating speed reduces standby time, when the temperature reaches PID automatic switching, accurate temperature, less power consumption (heating tube is made of high corrosion resistant titanium tube).

Control system:

1. Laboratory temperature controller $0-99.9^{\circ}\text{C}$, liquid crystal type dual digital display with P.I.D automatic calculus, control error $\pm 1^{\circ}$

1 PCS

2. The temperature control of the pressure air barrel is $0-99.9^{\circ}\text{C}$, and the LCD type double digital display has P.I.D automatic calculation, and the control error is $\pm 1^{\circ}$

1 PCS

3. 1 safety temperature expansion valve for the heating tank of the laboratory

1 PCS

4. Pressure air barrel safety temperature temperature expansion valve

1 PCS

5. Digital display time control 0.1S-999hr

1 PCS

6. Relays

3 PCS

7. Solid state relays

2 PCS

8. Spray solenoid valve
 - 1 PCS
9. Add water solenoid valve
 - 2 PCS
10. Illuminated buckle switch, which can be continuously charged 20,000 times
 - 4 PCS

Water filling system:

Automatic and manual water replenishment system is adopted, and automatic replenishment or manual replenishment when the water level is too low

1. Salt spray sealing sink: automatic water addition method
2. Safety protection device: when the water level is low, the power supply device is automatically cut off.
3. When the temperature is over, automatically cut off the heater power supply device.
4. With safety warning light device.
5. At the end, the machine automatically stops working, eliminating the inconvenience of personnel.

Standard accessories:

1、 Spray tower	1 set
2、 Glass nozzle	1 stick
3、 Shelving	2 groups
4、 Storage sticks	customize
5、 Standard graduated cylinder	1 stick
6、 Glass thermometer	2 sticks
7、 Collector	2 sticks
8、 Glass filter	1 pc

Name03 : TH-2516B DC resistance tester



Performance characteristics :

1. Highest resistance accuracy: 0.05% , Resistance resolution: 1 $\mu\Omega$
2. Temperature basic accuracy: 0.2 $^{\circ}\text{C}$
3. The maximum sampling rate is about 50 times/second
4. 4.3 inch 24 color touch LCD screen 480X 272 resolution
5. R, LPR, and other test function combinations
6. Low voltage test mode to effectively protect the test piece
7. Temperature conversion function (Δt)
8. Temperature compensation function (TC)
9. Offset voltage compensation function (0VC)
10. User-self-calibration function (0 ADJ)
11. Statistical Functions , Provide CpK, Cp and other statistics
12. Screen capture function, data logging function
13. Output 10 gear comparison results at the same time (overrun, pass and signal)
14. The instrument operation software can be automatically upgraded via USB HOST
15. Optional operation interface in Chinese and English

Technical parameters:

display	24-bit color; Color TFT LCD display with 480X272 resolution with touchscreen function			
Number of digits of reading	4 and a half digits			
Resistance measurement				
Measuring range	1 $\mu\Omega$ -20k Ω			
Resistance range	current	resolution	Accuracy Rd%+No.	Temperature coefficient
20 m Ω	1A	1 $\mu\Omega$	0.100+3	100ppm
200m Ω	1A	10 $\mu\Omega$	0.1+2	50ppm
2 Ω	100mA	100 $\mu\Omega$		
20 Ω	10mA	1m Ω		
200 Ω	1mA	10m Ω		
2k Ω	100 μA	100m Ω		

20kΩ			1Ω		
Measurement function					
Resistance measurement time				FAST : 10ms ; MED : 25ms ; SLOW1 : 115ms ; SLOW2 : ABOVE 455ms IS DISPLAY OFF, AND WHEN DISPLAY ON IS ADDED ANOTHER 20ms.	
Test-side configuration				Four ends	
Measure the average setting				1-255	
Clear "0"				√	
Range switching				Automatic, manual	
Trigger method				Internal, manual, external, bus	
Power supply frequency selection				√ (Avoid power supply noise interference)	
Measurement setup parameters are saved				30 groups	
Low voltage measurement				Open-circuit voltage : ≤ 40mV; Effective range : 2Ω, 20Ω, 200Ω, 2k Ω	
Thermoelectric potential elimination				√	
Statistical functions				Mean, Large, Small, Total Standard Deviation, Sampling Standard Deviation, Engineering Capability Index (Dispersed Cp, Bias CpK)	
Beep working status				Comparator, buttons	
Key lock				√	
Compare judgments					
Compare judgments	Signal output			HI/IN/LO	
	Signal			Calling pattern : OFF , IN , HI/LO	
	Limit setting mode			Absolute value upper/lower limit, percentage upper/lower limit + nominal value	
sorting				3gear, absolute value/percentage	
External trigger delay time				Automatic: determined by range, low voltage mode ON/OFF, OVC(offset voltage compensation)ON/OFF Manual: 0.000--9.999s	
External input trigger				Rising edge/falling edge (optional)	

port		
Interface configuration		USB DEVICE、USB HOST、 RS232C、HANDLER
General technical index		
Temperature, humidity		0℃ -- 40℃ , ≤ 90%RH
Guaranteed accuracy temperature and humidity		23±5℃ ≤80%RH
Power supply	voltage	90--125V , 190--250V
	frequency	50Hz/60Hz
Power dissipation		30 VA
dimension		215mm×87mm×335mm (Clear dimension) 235mm×105mm× 360mm (After adding the jacket)
weight		About 3.6kg

Name04 : MC-2000 Coating thickness gauge



MC-2000 coating thickness meter (coating thickness meter) measuring range: 0 ~ 5000um, is the crystallization of high-tech, it uses single-chip microcomputer technology, high precision, digital display, stable value, low power consumption, simple and convenient operation, touch keys, single probe full range measurement, small size, light weight; And with storage, readout, statistics, low voltage indication, system calibration, its performance has reached the advanced level of contemporary international similar instruments.

Scope of application:


The instrument adopts magnetic thickness measurement method, which can easily measure the thickness of non-magnetic coating on ferromagnetic materials, such as zinc, copper, chromium and other coatings on the surface of steel or the thickness of coatings such as paint, enamel, glass steel, spray plastic, asphalt and so on. The instrument is widely used in machinery, automobile, shipbuilding, petroleum, chemical industry, electroplating, spraying, enamel, plastic and other industries.

I The working principle :

The MC-2000 coating thickness gauge uses electromagnetic induction method to measure the thickness of the coating. The probe on the surface of the component produces a closed magnetic loop, which changes with the change of the distance between the probe and the ferromagnetic material, causing changes in the reluctance and inductance of the probe coil. This principle can be used to accurately measure the distance between the probe and the ferromagnetic material, that is, the coating thickness.

II Product performance

- 1、Measuring range : 0 ~ 1000um
- 2、Measurement error : <3%±1um
- 3、Minimum indication : 1um
- 4、Display mode: 4-digit LCD digital display
- 5、Main function :

- (1). Measurement: Single probe full range thickness measurement
 - (2). Storage and deletion: 600 measurement data can be stored, and a single measurement can be deleted, or all data in the storage area can be deleted.
 - (3). Read: Read the stored measurement data
 - (4). Statistics: There are three statistics, the average maximum and minimum value
 - (5). Calibration: System calibration is possible
 - (6). Power: undervoltage display function
 - (7). Print: Measurement values can be printed, optional micro printer
 - (8). Shutdown: There are two methods of automatic shutdown and manual shutdown
- 6、Power Supply: Two 1.5v batteries
 - 7、Power consumption: Maximum power consumption 100mw
 - 8、Perfect shape : 50mm*124mm*24mm
 - 9、Weight: 150g (including battery)
 - 10、Operating ambient temperature : 0°C ~ +40°C Relative humidity: not more than 90%
 - 11、Minimum matrix thickness : 0.2mm
 - 12、Minimum plane of matrix : 7mm
 - 13、Minimum radius of curvature : convex:1.5mm concave:6mm
 - 14、Undervoltage indication : Top right display "  "

* Small critical thickness : When the iron base thickness of the workpiece is greater than 1mm, the thickness of the coating (plating) layer is not measured by the iron base thickness

III Placement Order

1, number seven battery	2 sections
2. Probe	1 stick
3. Standard sample	1 box
4. Steel file	1 handful
5. Small aluminum box	1 pc
6, manual, certificate	1set